Solution2)

Step 1: Arrange the remaining FDs into groups by determinant

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| --- |
| PatNo → PatAge, PatZip9 |
| PatZip9 → PatCity |
| ProvNo → ProvSpecialty |
| VisitNo → PatNo, VisitDate  ProvEmail → ProvNo |
| VisitNo, ProvNo → Diagnosis |

Step 2: For each FD group, make a table with the determinant as the primary key. In the table list, the primary keys are underlined.

Patient (PatNo, PatAge, PatZip9)

FOREIGN KEY (PatZip9) REFERENCES ZipCode

ZipCode(PatZip9, PatCity)

Provider(ProvNo, ProvSpecialty, ProvEmail)

ProviderEmail(ProvEmail, ProvNo)

FOREIGN KEY (ProvNo) REFERENCES Provider

Visit(VisitNo, VisitDate, PatNo)

FOREIGN KEY (PatNo) REFERENCES Patient

DiagnosisTbl(VisitNo, ProvNo, Diagnosis)

FOREIGN KEY (VisitNo) REFERENCES Visit

FOREIGN KEY (ProvNo) REFERENCES Provider

Step 3: The Provider and ProviderEmail tables are merged and a unique constraint is added.

Patient (PatNo, PatAge, PatZip9)

FOREIGN KEY (PatZip9) REFERENCES ZipCode

ZipCode(PatZip9, PatCity)

Provider(ProvNo, ProvSpecialty, ProvEmail)

UNIQUE ProvEmail

Visit(VisitNo, VisitDate, PatNo)

FOREIGN KEY (PatNo) REFERENCES Patient

DiagnosisTbl(VisitNo, ProvNo, Diagnosis)

FOREIGN KEY (VisitNo) REFERENCES Visit

FOREIGN KEY (ProvNo) REFERENCES Provider